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Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	33	700/133.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/05/05 18:18
L2	69	700/131.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/05/05 18:18
L3	96	700/130.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/05/05 18:18
L4	51	700/135.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/05/05 18:18
L5	438	374/44.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/05/05 18:18
L6	1765	703/2.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/05/05 18:18
L7	343	703/7.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/05/05 18:18
L8	457	703/11.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/05/05 18:18
S1	76	(textile or clothing) same ((design or pattern) with (data$1base))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/05/02 16:01

S2	1320	((thermal) with (characteristic or aspect or indicat$4 or propert$4 or qualities or trait)) same (textile or clothing)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/05/02 15:50
S3	1	S1 and S2	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/05/02 15:50
S4	1	((thermal) with (characteristic or aspect or indicat$4 or propert$4 or qualities or trait)) same (textile or clothing) and ((design or pattern) with (data$1base))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/05/02 15:59
S5	1	((thermal) with (characteristic or aspect or indicat$4 or propert$4 or qualities or trait)) same (textile or clothing) and ((design or pattern) same (data$1base))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/05/02 16:00
S6	14	((thermal) same (characteristic or aspect or indicat$4 or propert$4 or qualities or trait)) same (textile or clothing) and ((design or pattern) same (data$1base))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/05/02 16:02
S7	938	((thermal) and (characteristic or aspect or indicat$4 or propert$4 or qualities or trait)) and (textile or clothing) and ((design or pattern) and (data$1base))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/05/02 16:02
S8	519	((thermal) same (characteristic or aspect or indicat$4 or propert$4 or qualities or trait)) and (textile or clothing) and ((design or pattern) and (data$1base))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/05/02 16:03
S9	137	((thermal) same (characteristic or aspect or indicat$4 or propert$4 or qualities or trait)) and (textile or clothing) and ((design or pattern) same (data$1base))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/05/02 16:03
S10	6	((thermal) same (characteristic or aspect or indicat$4 or propert$4 or qualities or trait)) and ((textile or clothing) same ((design or pattern) same (data$1base)))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/05/02 16:36

EAST Search History

S11	8	((thermal or heat) same (characteristic or aspect or indicat$4 or propert$4 or qualities or trait)) and ((textile or clothing) same ((design or pattern) same (data$1base)))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/05/02 16:37
S12	14	((thermal) same (characteristic or aspect or indicat$4 or propert$4 or qualities or trait)) same (textile or clothing) and ((design or pattern) same (data$1base))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/05/02 16:41
S13	72	700/132.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/05/05 18:18
S14	14	700/132.ccls. and (thermal or heat)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/05/02 16:41

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1　Smart Clothing Prototype for the Arctic Environment
J. Rantanen, J. Impiö, T. Karinsalo, M. Malmivaara, A. Reho, M. Tasanen, J. Vanhala
January 2002 **Personal and Ubiquitous Computing**, Volume 6 Issue 1
Publisher: Springer-Verlag
Full text available: ▣ pdf(270.59 KB)　Additional Information: full citation, abstract, index terms

> Continuous miniaturisation of electronic components has made it possible to create smaller and smaller electrical devices which can be worn and carried all the time. Together with developing fibre and textile technologies, this has enabled the creation of truly usable smart clothes that resemble clothes more than wearable computing equipment. These intelligent clothes are worn like ordinary clothing and provide help in various situations according to the application area. This paper describes th ...

2　Session 3: 3D virtual clothing: from garment design to web3d visualization and simulation
Luca Chittaro, Demis Corvaglia
March 2003 **Proceeding of the eighth international conference on 3D Web technology**
Publisher: ACM Press
Full text available: ▣ pdf(3.06 MB)　Additional Information: full citation, abstract, references, index terms

> One of the major challenges in Computer Graphics concerns the 3D representation and physically-based simulation of garments. In our research, we are working closely with the textile industry, investigating three different classes of problems. First, we aim at developing techniques and methods for cloth simulation specifically aimed at the Web3D context. Second, we are defining a cross-application data exchange format among the different CAD systems and applications used in the textile industry, ...

> **Keywords**: CAD tools for garment design, VRML/Java, XML, cross-application data exchange format for the textile industry, physically-based simulation, product visualization, virtual clothing

3　Three dimensional apparel CAD system
Hidehiko Okabe, Haruki Imaoka, Takako Tomiha, Haruo Niwaya
July 1992 **ACM SIGGRAPH Computer Graphics , Proceedings of the 19th annual conference on Computer graphics and interactive techniques SIGGRAPH '92**, Volume 26 Issue 2
Publisher: ACM Press

Full text available: ⏚ pdf(4.71 MB)   Additional Information: <u>full citation</u>, <u>references</u>, <u>citings</u>, <u>index terms</u>

4   <u>Cloth & deformable bodies: Simulation of clothing with folds and wrinkles</u>
R. Bridson, S. Marino, R. Fedkiw
July 2003 **Proceedings of the 2003 ACM SIGGRAPH/Eurographics symposium on Computer animation SCA '03**
Publisher: Eurographics Association

Full text available: ⏚ pdf(251.40 KB)   Additional Information: <u>full citation</u>, <u>abstract</u>, <u>references</u>, <u>citings</u>, <u>index terms</u>

Clothing is a fundamental part of a character's persona, a key storytelling tool used to convey an intended impression to the audience. Draping, folding, wrinkling, stretching, etc. all convey meaning, and thus each is carefully controlled when filming live actors. When making films with computer simulated cloth, these subtle but important elements must be captured. In this paper we present several methods essential to matching the behavior and look of clothing worn by digital stand-ins to their ...

5   <u>Stigma and the sensorial experience of objects: The fabric of society: a proposal to investigate the emotional and sensory experience of wearing denim clothing</u>
Fiona Jane Candy
June 2003 **Proceedings of the 2003 international conference on Designing pleasurable products and interfaces**
Publisher: ACM Press

Full text available: ⏚ pdf(403.24 KB)   Additional Information: <u>full citation</u>, <u>abstract</u>, <u>references</u>, <u>index terms</u>

This paper introduces a project that intends to utilise research methods derived from experience within Art and Design, to investigate the sensory and emotional experience of wearing denim clothing in public. The researcher will provide an explanation of context and identify the range of research methods under consideration. The project is based on the premise that as a 21st century mass-produced product, denim typifies the processes inherent within design and commercial culture. Although cultur ...

Keywords: denim, design, identity, jeans, material culture, society

6   <u>Can we get there from here? (panel): current challenges in cloth design, modeling and animation</u>
David E. Breen, Jeffrey W. Eischen, Michael Kass, Nadia Magnenat Thalmann, Maurizio Vecchione
August 1997 **Proceedings of the 24th annual conference on Computer graphics and interactive techniques**
Publisher: ACM Press/Addison-Wesley Publishing Co.

Full text available: ⏚ pdf(2.03 MB)   Additional Information: <u>full citation</u>, <u>references</u>

7   <u>Large steps in cloth simulation</u>
David Baraff, Andrew Witkin
July 1998 **Proceedings of the 25th annual conference on Computer graphics and interactive techniques**
Publisher: ACM Press

Full text available: ⏚ pdf(465.12 KB)   Additional Information: <u>full citation</u>, <u>references</u>, <u>citings</u>, <u>index terms</u>

Keywords: cloth, constraints, implicit integration, physically-based modeling, simulation

8 Robust treatment of collisions, contact and friction for cloth animation

Robert Bridson, Ronald Fedkiw, John Anderson
July 2002 **ACM Transactions on Graphics (TOG) , Proceedings of the 29th annual conference on Computer graphics and interactive techniques SIGGRAPH '02**, Volume 21 Issue 3

Publisher: ACM Press

Full text available: pdf(3.74 MB)   Additional Information: full citation, abstract, references, citings, index terms

We present an algorithm to efficiently and robustly process collisions, contact and friction in cloth simulation. It works with any technique for simulating the internal dynamics of the cloth, and allows true modeling of cloth thickness. We also show how our simulation data can be post-processed with a collision-aware subdivision scheme to produce smooth and interference free data for rendering.

Keywords: cloth, collision detection, collision response, contacts, kinetic friction, physically based animation, static friction

9 Predicting the drape of woven cloth using interacting particles

David E. Breen, Donald H. House, Michael J. Wozny
July 1994 **Proceedings of the 21st annual conference on Computer graphics and interactive techniques**

Publisher: ACM Press

Full text available: pdf(483.23 KB)   Additional Information: full citation, abstract, references, citings, index
                        ps(5.47 MB)   terms

We demonstrate a physically-based technique for predicting the drape of a wide variety of woven fabrics. The approach exploits a theoretical model that explicitly represents the microstructure of woven cloth with interacting particles, rather than utilizing a continuum approximation. By testing a cloth sample in a Kawabata fabric testing device, we obtain data that is used to tune the model's energy functions, so that it reproduces the draping behavior of the original material. Photographs, ...

Keywords: Kawabata Evaluation System, cloth, drape, particle systems, physically-based modeling

10 Papers: managing user interaction: Clothing manipulation

Takeo Igarashi, John F. Hughes
October 2002 **Proceedings of the 15th annual ACM symposium on User interface software and technology**

Publisher: ACM Press

Full text available: pdf(1.45 MB)
                        mov(306.00 bytes)   Additional Information: full citation, abstract, references, citings, index
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                        bytes)

This paper presents interaction techniques (and the underlying implementations) for putting clothes on a 3D character and manipulating them. The user paints freeform marks on the clothes and corresponding marks on the 3D character; the system then puts the clothes around the body so that corresponding marks match. Internally, the system *grows* the clothes on the body surface around the marks while maintaining basic cloth constraints via simple relaxation steps. The entire computation takes ...

Keywords: clothing, user interface

11 Near-term distributed simulation of apparel manufacturing

Roy P. Pargas, John C. Peck, Prashant K. Khambekar, Satish K. Dharmaraj

December 1990 **Proceedings of the 22nd conference on Winter simulation**

Publisher: IEEE Press

Full text available: pdf(595.53 KB)　Additional Information: full citation, references, index terms

12 Rotational polygon overlap minimization

Victor J. Milenkovic

August 1997 **Proceedings of the thirteenth annual symposium on Computational geometry**

Publisher: ACM Press

Full text available: pdf(1.42 MB)　Additional Information: full citation, references, index terms

13 Interactive and experiential design in smart textile products and applications

Sharon Baurley

July 2004 **Personal and Ubiquitous Computing**, Volume 8 Issue 3-4

Publisher: Springer-Verlag

Full text available: pdf(278.17 KB)　Additional Information: full citation, abstract, index terms

The technical textiles industry in the USA and the EU is growing. As we advance into the knowledge age, objects and material technology will disappear into our material environment, turning unintelligent objects into active and intelligent participants in our lives. As much of our environment is made up from textile materials, they will be the targets of smart engineering. The future of smart textiles will rely on the convergence of electrochemistry and textiles in order to process electronic po ...

Keywords: Experience and emotion, Hybrid industries, Interaction design, Ubiquitous intelligence

14 Social weight: designing to minimise the social consequences arising from technology use by the mobile professional

Aaron Toney, Barrie Mulley, Bruce H. Thomas, Wayne Piekarski

October 2003 **Personal and Ubiquitous Computing**, Volume 7 Issue 5

Publisher: Springer-Verlag

Full text available: pdf(431.74 KB)　Additional Information: full citation, abstract, index terms

This paper defines the concept of social weight as a design consideration and presents the e-SUIT, a social weight research platform incorporated covertly within a traditional business suit. The e-SUIT allows its user to strike a balance between a given technology's derived benefit and its social consequence. As the e-SUIT is designed for research within a business context, it is built upon commercially available enterprise software. This work is a first step towards subjecting the empirical soc ...

Keywords: Mobile professional, Social weight, Wearable

15 Creating a flexible, simulation-based finite scheduling tool

Barbara Werner Mazziotti, Richard Edward Horne
December 1997 **Proceedings of the 29th conference on Winter simulation**
Publisher: ACM Press
Full text available: pdf(811.59 KB)   Additional Information: <u>full citation</u>, <u>references</u>, <u>citings</u>, <u>index terms</u>

16 <u>A compaction algorithm for non-convex polygons and its application</u>

Zhenyu Li, Victor Milenkovic
July 1993 **Proceedings of the ninth annual symposium on Computational geometry**
Publisher: ACM Press

Full text available: pdf(1.16 MB)   Additional Information: <u>full citation</u>, <u>abstract</u>, <u>references</u>, <u>citings</u>, <u>index terms</u>

Given a two dimensional, non-overlapping layout of convex and non-convex polygons, compaction can be thought of as simulating the motion of the polygons as a result of applied "forces." Compaction can be modeled as a motion of the polygons that reduces the value of some linear functional on their positions. Optimal compaction, planning a motion that finds the global minimum reachable value, is shown to be NP-complete. We give a compaction algori ...

17 <u>Columns: Computer graphics around the world: computer graphics in Hong Kong</u>

Zhigeng Pan, Pheng-ann Heng, Rynson W. H. Lau
February 2000 **ACM SIGGRAPH Computer Graphics**, Volume 34 Issue 1
Publisher: ACM Press
Full text available: pdf(930.13 KB)   Additional Information: <u>full citation</u>, <u>abstract</u>, <u>references</u>

Computer graphics has evolved to become an important discipline in both academia and industry, and an enabling technology for a broad variety of applications such as engineering (CAD, CAE and CAM), GIS, publishing and office applications. It can no longer be regarded as a confined discipline devoted solely to graphics standards or traditional techniques of 3D representations and rendering. The influence of computer graphics can be felt in almost all of today's key industrial areas, wherever comp ...

18 <u>Teaching production line balancing with an interactive, simulation-based training system</u>

Barbara Werner Mazziotti, F. Bradley Armstrong, Kenneth A. Powell
December 1993 **Proceedings of the 25th conference on Winter simulation**
Publisher: ACM Press
Full text available: pdf(212.16 KB)   Additional Information: <u>full citation</u>, <u>citings</u>

19 <u>Creating a focused application simulator with flexible decision making capabilities</u>

Barbara Werner Mazziotti, F. Bradley Armstrong
December 1994 **Proceedings of the 26th conference on Winter simulation**
Publisher: Society for Computer Simulation International
Full text available: pdf(839.17 KB)   Additional Information: <u>full citation</u>, <u>references</u>, <u>citings</u>, <u>index terms</u>

Keywords: Data-Driven Animation, Dual Resource Constrained systems, Focused Application Simulator & Trainer, The Line Balancing Decision Trainer, cross-trained operators, decision rules, generic models, interactive training, non-programming data entry, operator movement rules, scheduling rules, team manufacturing

20 E-textiles: Challenges and opportunities in electronic textiles modeling and optimization
Diana Marculescu, Radu Marculescu, Pradeep K. Khosla
June 2002 **Proceedings of the 39th conference on Design automation**
Publisher: ACM Press

Full text available: pdf(769.90 KB)   Additional Information: full citation, abstract, references, citings, index terms

This paper addresses an emerging new field of research that combines the strengths and capabilities of electronics and textiles in one: electronic textiles, or e-textiles. E-textiles, also called Smart Fabrics, have not only "wearable" capabilities like any other garment, but also local monitoring and computation, as well as wireless communication capabilities. Sensors and simple computational elements are embedded in e-textiles, as well as built into yarns, with the goal of gathering sensitive ...

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Hidehiko Okabe, Haruki Imaoka, Takako Tomiha, Haruo Niwaya

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11 Natural objects: Real-time cloth simulation for garment CAD

Napaporn Metaaphanon, Pizzanu Kanongchaiyos
November 2005 **Proceedings of the 3rd international conference on Computer graphics and interactive techniques in Australasia and South East Asia GRAPHITE '05**
Publisher: ACM Press
Full text available: pdf(373.28 KB)   Additional Information: full citation, abstract, references, index terms

For decades, Computer Graphics has played an important role in many kinds of design works, especially, industrial design of solid objects. However, most available methods can not work well for soft and deformable object like cloth. The quality of works mostly depends on the efficiency of hardware as same as the cloth and garment pattern modeling methods. In this research, real time cloth modeling for costume design and making is proposed using mass-spring model and cellular structure space model ...

Keywords: cellular structured space, cloth model, garment model, human model mass-spring model

12 Rotational polygon overlap minimization
Victor J. Milenkovic
August 1997 **Proceedings of the thirteenth annual symposium on Computational geometry**
Publisher: ACM Press
Full text available: pdf(1.42 MB)   Additional Information: full citation, references, index terms

13 Columns: Computer graphics around the world: computer graphics in China: an overview
Jiaoying Shi, Zhigeng Pan
May 2001 **ACM SIGGRAPH Computer Graphics**, Volume 35 Issue 2
Publisher: ACM Press
Full text available: pdf(6.29 MB)   Additional Information: full citation, abstract, references

Computer graphics has become an important discipline in both academia and industry, and an enabling technology for a broad variety of applications such as engineering (CAD, CAE and CAM), geographic information systems (GIS), publishing, office applications, games and the filmmaking industry. Graphics is also integrated to Internet application systems, and graphics and image techniques are combined together in some special applications. Computer graphics can no longer be regarded as a confined di ...

14 A compaction algorithm for non-convex polygons and its application
Zhenyu Li, Victor Milenkovic
July 1993 **Proceedings of the ninth annual symposium on Computational geometry**
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16 Translational polygon containment and minimal enclosure using linear programming based restriction
Victor J. Milenkovic
July 1996 **Proceedings of the twenty-eighth annual ACM symposium on Theory of computing**
Publisher: ACM Press

Full text available: pdf(1.14 MB)   Additional Information: full citation, references, citings, index terms

17 Virtual reality I: Automatic pre-positioning of virtual clothing
Clemens Groß, Arnulph Fuhrmann, Volker Luckas
April 2003 **Proceedings of the 19th spring conference on Computer graphics**
Publisher: ACM Press

Full text available: pdf(432.72 KB)   Additional Information: full citation, abstract, references

In this paper we present a method for dressing virtual humans using CAD cloth data. Our method is based on the idea of geometric pre-positioning and physically-based simulation for end-positioning. The geometric pre-positioning algorithm places several pieces of clothing automatically and simultaneously around the human body in such a way that the final fitting can be computed efficiently by a physically-based cloth simulation. The dressed virtual humans look realistic and our dressing method ca ...

Keywords: cloth modeling, physically based simulation

18 Session 2C: techniques and applications (short papers): Tailor tools for interactive design of clothing in virtual environments
Michael Keckeisen, Matthias Feurer, Markus Wacker
November 2004 **Proceedings of the ACM symposium on Virtual reality software and technology VRST '04**
Publisher: ACM Press

Full text available: pdf(485.31 KB)   Additional Information: full citation, abstract, references, index terms

In this work, we present virtual tailor tools which allow the interactive design and modification of clothing in a 3D Virtual Environment. In particular, we propose algorithms and interaction techniques for sewing and cutting garments during a physical cloth simulation, including the automatic modification of the underlying planar cloth patterns.

Keywords: cloth modelling and simulation, interaction techniques, interactive design, virtual prototyping

19 Stigma and the sensorial experience of objects: The fabric of society: a proposal to

investigate the emotional and sensory experience of wearing denim clothing

Fiona Jane Candy

June 2003 **Proceedings of the 2003 international conference on Designing pleasurable products and interfaces**

Publisher: ACM Press

Full text available: pdf(403.24 KB)   Additional Information: full citation, abstract, references, index terms

This paper introduces a project that intends to utilise research methods derived from experience within Art and Design, to investigate the sensory and emotional experience of wearing denim clothing in public. The researcher will provide an explanation of context and identify the range of research methods under consideration. The project is based on the premise that as a 21st century mass-produced product, denim typifies the processes inherent within design and commercial culture. Although cultur ...

Keywords: denim, design, identity, jeans, material culture, society

20 Interaction techniques: A comparative study on user performance in the Virtual Dressmaker application

Markus Wacker, Stanislav L. Stoev, Michael Keckeisen, Wolfgang Straßer

October 2003 **Proceedings of the ACM symposium on Virtual reality software and technology**

Publisher: ACM Press

Full text available: pdf(275.82 KB)   Additional Information: full citation, abstract, references

We report on a user study, investigating the efficiency of user interaction in a Virtual Reality application compared to 3D desktop applications.The Virtual Dressmaker is a Virtual Reality application for virtual cloth design, assembly, and simulation that supports advanced 6DoF interaction techniques. We conjecture that these interaction techniques are more natural for the users and lead to faster and more precise results than common desktop applications.In our user study we investigate interac ...

Keywords: cloth modelling and simulation, human performance in VR, interaction techniques, navigation tools, user study

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